CONSORTIA APPROACH FOR CONTENT SHARING USING HELINET DATABASES TO THE HEALTH SCIENCE LIBRARIES IN DAKSHINA KANNADA: A CASE STUDY

Synopsis

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1. Introduction:

Co-operation among libraries is not a new idea, interlibrary loan, borrowing of books and journals have been going on for many years on an irregular basis. Co-operation started because in the increase of publications, due to information explosion, the rise of cost of publications, stringent budget allocations and the growth in student enrolment. The mode of co-operation has been transformed with the advances in information technology. The emergence of the Internet, the World Wide Web (www) as a new information delivery medium, triggered proliferation of web-based full text online resources. The proliferation of electronic resources in a networked society has resulted in the development of "shared subscriptions" or "Consortia-based subscriptions" everywhere in the world (Arora, 2003).

Co-operation was something one engaged in or not, as convenient, a moral rather than contractual obligation. Library co-operation has long been a familiar term applied to all or various and presumably beneficial, library relationships. It suggests a joining together for a common purpose, a union stronger than mere library (Felter, 1975).

Library is a growing organism, one of the five laws of library science given by Dr. S.R. Ranganathan leads whole world to the flap of consortium. Consortium is the joint venture of homogeneous institutions working for the same objectives. In today's scenario consortium is the need of hour (Murthy, Chauhan, Cholin & Patil, 2005).

According to Wikipedia, Consortium is a Latin word meaning 'partnership', 'association' or 'society'. The word derives from consors 'partner' itself from con-'together' and sors -'fate' meaning owner of means or comrade. According to oxford dictionary "consortium" means temporary association of a number of countries, companies, banks etc., for a common purpose. Synonymously the term is used as alliance, coalition, collaboration, cooperation, etc.

Potter identifies two main reasons for the formation of consortia. They are sharing of existing physical resources and the purpose of identifying and addressing common needs arising from developments in information technology. He also noted growth of Internet and World Wide Web (Potter, 1997).

2. Library Consortium:

The development of consortia is the out come of the desire for resource sharing. A single Library has limitations of maintaining books/documents/journals and other materials demanded by its clients or users. To overcome these types of problems co-operation among the Libraries was initiated and a new concept "Library Consortium" came into existence with a wide coverage.

The exact date for the first use of the term "Library Consortium" is not very clear. The use of the term "Consortium" became established in the North American Library Lexicon in the 1960s and indicate forms of structured co-operation focused primarily on resource sharing and cost reduction. Co-operation has been identified in 1879 by G L Campbell who wrote on "Grouping of Places" for library purposes. Reports of co-operation committee of the American Library Association appeared in the ALA Bulletin in the 1880s. Melvil Dewey wrote about library co-operation, in an issue of the library journal which appeared in 1886 and E.A. Mac presented view on co-operation versus competition in the same publication. Bellamy wrote in 1888 of the "intolerable management" of libraries in the nineteenth century. In 1970 the U S office of Education sponsored a nation wide study of academic library consortia (Konnur, Maraddi and Satish, 2002). R.B. Down expressed his views of library co-operation in a paper "one for all – a historic sketch of library co-operation 1930-1970"included in the 1939 symposium on "the library of tomorrow" Organized by the ALA. Nafila and Darko-Ampem traces the history of Library Consortium from 1960 through 2000 and report that an International Coalition of Library Consortia (ICOLC) was formed in 1997 (Pal and Das, 2010). In European Countries, its use in Library context is very remote origins. In Italy "Consorzio" has with changing fortunes, been used in the area of public Libraries throughout the 20th century. In some European Languages Consortium has a fairly precise meaning in legal terms: it indicates a union of people, of public and private institutions (In Italian) or Union of Banks (in German), with a specific legal structure (Giordano, 2003). Kohl's (1994) research based on Ohio Link reveals that the consortium arose as a measure to address budget constraints and of serials prices, problem of space. Foskett and Perry (1993) and Carr (1998) indicate that in 1982 libraries in UK formed a consortium of University Research Libraries (CURL) to share computerized cataloguing or bibliographic information. Today electronic consortia have been budding forth, the

formation of consortia is a solution to Libraries and Consortia are still at its nascent stage in many countries of the world.

The Library Consortia have taken a new role in transferring the information from the generators to end users. Following diagram depicts the information transfer process in a consortia environment (Pal & Das, 2010)

3. Consortia in India:

In India the library networks started with the initiatives of NISSAT in the form of CALIBNET in 1986, DELNET in 1988, and INFLIBNET in 1988. There are many libraries in India formed consortia; they are Indian Institute of Astrophysics (IIA) Library, Inter-University Centre for Astronomy and Astrophysics (IUCAA) Library, National Centre for Radio Astrophysics (NCRA) Library, Nizamiah Observatory (NO) Library, Physical Research Laboratory (PRL) Library, Raman Research Institute (RRI) Library, Tata Institute of Fundamental Research (TIFR) library, Uttar Pradesh State Observatory (UPSO) library. At the national level INFLIBNET has taken initiative to form consortia. Due to financial crunch and the rising cost of journals, many Indian University and College Libraries cannot subscribe to all the required journals and databases. To overcome this problem the libraries are forming consortia. To increase the use of e-resources access, UGC has launched a major initiative called UGC-INFONET in 2001 (Biswas & Dasgupta, 2003). The Rajiv Gandhi University of Health Sciences, Bangalore launched HELINET Consortium in 2003. The Ministry of Human Resource Development (MHRD) has set up Indian National Digital Library in Science and Technology (INDEST) consortium in 2003. Council of Scientific and Industrial Research Consortium (CSIR) the consortia concept was concerned at a meeting of Heads of CSIR Literary and information centers held at NAL, Bangalore during 1993. CSIR consortium started in 2001. The Forum for Resource Sharing in Astronomy and Astrophysics (FORSA), which saw its on 29th July 1981 with a mission and vision to participate actively in library cooperation, information exchange and sharing resources held in each library . FORSA consortium started in 2002. TIFR Library consortium started in 1999. ISI Library consortia started in 1999. IIM Libraries consortium started in 2001.

4. HELINET Consortium:

The state of Karnataka launched Rajiv Gandhi University of Health Sciences (RGUHS) in 1996 to focus distinctly on a better planned development of health science education. The Library at the University was named as RGUHS Digital Library (RDL) for developing State-of-the-art digital Library Infrastructure. The vision was to provide leadership to the libraries at the affiliated colleges is transforming their role and systems to the demand of the e-age medical education. HELINET Stands for Health Science Library and Information Network conceived by the University and successfully implemented is the first consortium in the country. HELINET goal is to deliver information to users' desk top with round the clock access. The major benefit is this consortium was expanded access to core international e-journals. The concept was adopted by RGUHS in 2001 to network all the Health science Libraries under its affiliation and to develop a Consortium for resource sharing. The consortium was started in 2003, extended to only 25 Medical colleges and it contained only e-journals. But at present the members has grown up to 680 including all the Health Science Institutions The consortium was extended to all the health Science colleges during the year 2005. E-books, Clinics and year books were added to the consortium in 2005. A series of workshops for principals and Librarians of Medical, Dental, Pharmacy, Physiotherapy, Nursing and other courses were conducted on HELINET Consortium regarding its awareness, usage and access. During the survey, HELINET Consortium contains the following access Gateways**:** Science Direct, Ovid, MD Consult, Annual Reviews, Springer, Thieme Verlag, Taylor and Frances, Blackwell, Bentham, Ebrary and Oxford University Press (About HELINET, 2010).

5. Resource sharing:

The concept of Resource sharing is not new; it has been in operation in one form or other from the existence of libraries. Resource sharing among libraries is long-standing and takes a number of forms including inter-lending, co-operative acquisitions, shared storage facilities, staff education, sharing of human and computer facilities, and information networks (Kumar & Kumar, 2002). The term 'resource' applies to any thing, person or action to which one turns for aid in time of need. The word sharing cannotes apportioning, allotting or contributing something that is

owned, to benefit others. Resource sharing in its most positive aspects entrails reciprocity, implying or partnership in which each member has something useful to contribute to others. Resource sharing denotes a mode of operation whereby library functions are shared in common by a number of libraries (Dawra, 2003). At present, due to exponential growth of electronic information and computer technology resource sharing has grown up in Hospital Libraries (Duchow, 1990). In 1990s and from 2000 onwards, Internet access and consortia approach of journals subscriptions diversified the availability of electronic information (Babu, Sarada & Ramaiah, 2010).

6. E-resources:

Internet is a storehouse of knowledge and warehouse of information. India has been ranked fourth among the top 10 nations in the world with 81 million internet users even as the world aggregate touched 134, 85, 72, 040 by the end of 2007 united states leads the chart with 220 million internet users followed by China 210 Million and Japan 88.1 million. Brazil comes next to India with 53.1 million users UK 40.2 million, Germany 39.1 million, Republic of Korea 35.5 million Italy 32 million and France 31.5 million. There were total 13.5 million Internet subscribers in India, representing 1.15 per 100 people (The Times of India, 03.12.2008). In India, 84% of villagers in 7 states not aware of internet. The primary research also shows that as compared to 2008, there is a 26.7% rise in the number of active rural internet users in 2009, from 3.3 million in 2008 to 4.2 million in 2009 (Sinha, 2010).

A large number of reference sources like encyclopedias, dictionaries, manuals, handbooks, directories, yearbooks, atlases and maps are available on Internet. Supplemented by online databases, electronic journals, books, Electronic discussion lists/forums, Library catalogues, campus wide information systems and software archives and other resources. E-resource is a term used to describe a variety of resources in electronic format such as databases, the web, e-journals, e-books etc.

6.1 E-books:

An e-book can take the form of a single monograph or a multi-volume set of books in a digital format that allows for viewing on various types of monitors, devices and personal computers (Connaway, 2003). Electronic books (e-Books) are one way to enhance the digital library with global 24- hours-a-day and 7-days-a week access to authoritative information and they enable users to quickly retrieve and access specific

research material easily, quickly and effectively (Nattar & Selvakumar, 2009). Technologies such as the Internet, web electronic editing, print-on-demand, online subscription services and e-books are beginning to transform the publishing industry. It is very difficult to gauge the entire scale of the e-book market because books can be downloaded on any form of computer. The term book denotes both the message and the medium. An e-book is a term used to describe a text analogous to a book that is in digital form to be displayed on a computer screen (Rao, 2003).

"A book whose contents are in electronic form and that can be read on a computer screen or any electronic reading device". E – Books offer multitude of features such as malleability, flexibility, granularity, search ability and ubiquity. Absence of common access and business models have contributed to the slow growth of the e-book industry. Hawkins (2000) states that "an e-book" is the contents of a book made available in an electronic form." (Sawyer, 2010).

6.2 E – Journals:

E – Journal is a new paradigm, distinct and different from print. E-journals are called by various names such as e-journal, electronic journals; Internet based serials, online journals, e-serials and electronic serials, electronic publishing, electronic periodicals. There are two types of Electronic Journals; Electronic versions of print journals and Network based serials-published and access on networks (Raghavan & Vijayalakshmi, 1997). An electronic journal is a periodical regular or irregular and moderated unit made available in an electronic format, either on a static medium or via computer networks (Tomney & Burton, 1998). E-Journals can be defined as a periodical available online and also in CD-ROM format, full text delivery system and differs from conventional bibliographic databases online. Any Journal existing in an electronic format that embraces all periodicals available electronically as well as in paper copy, including the text of periodicals accessible through online networks and those periodicals distributed in CD-ROM format.

The first scholarly journal, journal des seavans, was published as a new medium of communication in 1665 and was soon followed by the Philosophical Transactions of the Royal Society (Osburn, 1984). E-Journals started with the full text databases offered by Dialog in 1980's. Dialog provided with only ASCII files of the journals include diagrams, photographs, graphs etc. The advent of CD-ROM and other related technologies delivered full-text of the journals as image file. During

1990's online vendors started delivering full- text using CD-ROM and FAX, they are not able to deliver a full text journal due to copyright problems. Bell & Howell Information and Learning (BHIL) successfully provided this technology model for journals offered LAN based solutions, with its image files of full-text CD-ROM database of journals in the field of management, medical and social sciences. It was later followed by ADONIS and IEEE. At present the e-journals are used in HTML, PDF formats (Singh, Kumar & Kaur, 2006).

7. Need for the Study:

The voluminous growth of knowledge increased in user's need which leads the Libraries to share their resources. A single Library is not able to meet the need of users due to lack of funds, manpower and resources hence, the Libraries formed consortia to share their resources with the member Libraries. Resource sharing is inevitable among the Libraries to cope with diminishing budgets, galloping price for subscribing periodicals and purchasing electronic resources. Gradually this leads to e-resource sharing; at present we call 'Consortia' in a net worked environment.

Research surveys have been conducted about the use and impact of Library services, its usage manpower, Library automation, Computerization, Networking, and e-journals in national and international level. Where as the study about e-resources sharing in a consortia environment very few have been done. Hence, the researcher has found that there is need to find the effective use of e-resource in a consortia environment.

The Literature surveys revealed that majority of the studies have been conducted in the developed Countries. However, there is no research study conducted about the "Consortia approach" for content sharing using HELINET Databases in Health Science Libraries in Dakshina Kannada. HELINET (Health Science Libraries and Information Network) is a resource sharing consortium introduced by the Rajiv Gandhi University of Health Sciences, (RGUHS) Bangalore in 2003. It is a first Health Science Consortium implemented in India.

The present study has been taken up to investigate use and impact of e-resources covered in HELINET databases in Health science Libraries of D.K.

8. Statement of the problem:

The present study intends to assess the use and impact of e-resources, effective use of infrastructural facilities, publisher wise e-resources covered, usefulness to faculty and students, satisfaction level by the users, quality of information covered, problems faced by the users while accessing e-resources etc., hence, the theme of study is conceived under the title:

"CONSORTIA APPROACH FOR CONTENT SHARING USING HELINET DATABASES TO THE HEALTH SCIENCE LIBRARIES IN DAKSHINA KANNADA: A CASE STUDY"

9. Definition of the concepts:

The concepts used in the title of the thesis are briefly explained below to avoid ambiguity in the usage.

9.1 Consortia:

In general consortia mean collaborative or coalition effort for meeting the varied needs of users. In other words "Consortia indeed is one where in willing buyers meet willing sellers." (Biradar & Kumar, 2002).

9.2 Consortia approach:

The consortia approach involves participation of a group of individuals or organizations in ventures of common interest. It is a new business trend and innovation (Seetharaman, 1995).

9.3 Content:

The simple meaning of content is information put to use. In a broader sense the word 'Content' means what a document contains. The idea of what is contained in a document; be it a book, a periodical or a newspaper can be further narrowed down. Content is not only confined to the text material. Content can be graphic it can be sound or it can be a moving picture (Kamalavijayan, 2002).

9.4 Content sharing:

Content sharing is nothing but information sharing. According to Wikipedia "information sharing" referred to one-to-one exchange of data between a sender and

receiver. These information exchanges are implemented via dozens of open and proprietary protocols, message and file formats. Electronic data interchange is a successful implementation of commercial data exchanges that began in the late 1970s and remains in use today (Information Sharing, 2010).

9.5 HELINET:

It is a networking concept stands for Health Sciences Library and Information Network. The concept is adopted by RGUHS in 2001 to network all the health Science Libraries under its affiliation and to develop a consortium for resource sharing (Urs & Rao, 2005).

9.6 Database:

The term data which is the plural form of datum is always used in singular forms, refers to an individual fact, statistics or a piece of information or a group or a body of facts, statistics or the like. In its simple meaning data is an event or entity represented in some symbolic forms and capable of being processed (Halkar & Gupta, 2004).

The ‘database’ is often used to refer to any data available for information processing or retrieval operation, the term implies a particular structuring of the data, both conceptually and in physical storage. A ‘database’ is a mechanized, formally defined, centrally controlled collection of data in an organization (Davis & Olson, 2000).

9.7 Health Science Libraries:

World Health Organization defines health as “Health is a state of complete physical, mental and social wellbeing and not merely an absence of disease or infirmity.” (Park, 2009).

Health science is the discipline of applied science which deals with human and animal health. There are two parts of health science. The study, research, and knowledge of health and the application of that knowledge to improve health, cure diseases and understanding how humans and animals function (Health Science Libraries, 2010).

The role of the health science library is to provide a learning center where practitioners and administrators can develop the skills and knowledge needed to

enhance the quality of health care in diverse communities and dissemination of biomedical information (Trivedi, 2006).

9.8 Dakshina Kannada:

According to Wikipideia, Dakshina Kannada, South Kanara or South Canara is a coastal Karnataka district in the state of Karnataka in India. Mangalore is the headquarters and chief city of the district. It has an area 4866 square kilometre. Density of human population is 390 persons per square kilometre. There are 354 villages in the district. The district is divided into five Taluks, Mangalore, Bantwal, Puttur, Sullia, and Belthangady. The Dakshina Kannada district is in fore front in education. The professional education has made a mark in the country. A host of educational Institutions offering courses in Medicine, Engineering, Pharmacy, Nursing, Hotel and Catering, Law and Management are located in this district (Dakshina Kannada, 2010).

10. Objectives of the study:

The main objectives of the study are:

- To understand the familiarity of the use of Internet to access HELINET Databases
- To analyse the use of HELINET databases under the categories of gender, age, publisher and other categories.
- To identify frequently used subjects/publishers by the HELINET users.
- To study the impact of the use of HELINET Databases on staff and postgraduate students.
- To identify the purpose of usage of HELINET e-resources.
- To understand the general problems faced by the users while accessing the HELINET databases.
- To find out the preference given to print and e-version.
- To identify the infrastructural facilities available in the college to use HELINET databases.
- To collect the views of the Librarians regarding the usage of HELINET databases.
- To find out the ways and means to improve the use of e-resources by the users.

11. Significance of the study:

There is not a single survey undertaken to know Health Science Libraries effectively use e-resources provided through HELINET databases in Dakshina Kannada district. This study signifies the following:

- The study may provide other Institutions a model for the effective use of district wise consortia approach for content sharing.
- The study will provide awareness of e-resources covered in HELINET databases.
- The information collected will help the health science libraries to improve the use of HELINET Databases.
- This study will give a clear idea or a model for the development of current features of HELINET e-resources.
- It helps the health science librarians to suggest the authorities to improve the quality of e- resources and infrastructural facilities to meet the user's needs.
- The result of the survey leads for further development of the HELINET Databases.
- The study helps the consortium coordinator and authorities to know the requirements of the end users and to take necessary decisions to improve the quality of e-resources.

12. Hypotheses:

The following hypotheses are formed to identify the use of e-resources covered in HELINET databases:

- Users prefer e-journals than e-books.
- Among the Health Science Institutions, Medical and Dental Institutions users use HELINET resources more than others.
- Younger generation is using more than older ones; age is the main criteria in the usage of HELINET databases.
- HELINET database users of Dakshina Kannada have a positive opinion towards the resources covered in HELINET.
- Majority of the users are highly satisfied with the use of HELINET databases.
- Health Science Institutions prefer to use e-version than print version.

13. Research Methodology:

Research methodology is a way to systematically solve the research problems. In order to collect comprehensive and relevant data for the study a questionnaire based survey method was chosen. The study began with literature search, the secondary documents like LISA (Library and Information Science Abstracts) were scanned, institutions data was collected from the Rajiv Gandhi University of Health Sciences, Bangalore, its Website and from the Websites of surveyed Institutions of Dakshina Kannada District, Reports, Magazines, Bulletins, Souvenirs, Newspapers, Library and Information Science Journals and other related journals were scanned for the study. Also information collected from the users and Librarians in the surveyed Institutions are taken for the study.

13.1 Population selected for the study:

The total population selected under the study was teaching staff and post graduate students working and studying in Health Science Institutions of Dakshina Kannada. The total number of population was taken from the RGUHS Websites, from the respective institutions websites and enquiring in the concerned institutions.

13.2 Institutions covered:

The following Post graduate Institutions are covered under the study:
Medical, Dental, Nursing, Pharmacy, Physiotherapy, Ayurveda, Homoeopathy and Hospital Administration. The total population includes Teaching Staffs- Professors and Heads of the Departments, Additional Professors, Associate Professors, Assistant Professors, Lecturers, Tutors and Residents and the Postgraduate students are covered under the study.

13.3 Questionnaire Designed:

The questionnaires were prepared keeping in view of the objectives of the study. The questions were arranged in order to provide an opportunity to the respondents to become familiar with the topic. Questionnaire and survey methods were followed by personal visits to the library so that the researcher can discuss with the Librarians and Users at the institutions.

In order to collect accurate data two types of questionnaires were designed viz., questionnaire for Users and questionnaire for Librarians. The questions were prepared with multiple choices using five point Likerts scale.

13.4 Questionnaire for users:

Questionnaires were divided into 3 parts:

Part A: The part A contains general information, demographic data, use of internet electronic resources, formats for downloading e-resources, trained personnel in the library and merits and demerits of e-resources.

Part B: Questions were prepared according to approach for consortia using HELINET resources, awareness of HELINET resources, its use, reason for not using. Publisher wise e-journals accessed by the users, discipline wise e-resources used by the users, opinion about databases covered in HELINET and satisfaction level of HELINET e-resources.

Part C: Questions contains impact of the use of HELINET Databases and General opinion, purpose of using e-resources, orientation about HELINET Databases, problems covered in HELINET, Infrastructural facility available in the library to use e-resources.

13.5 Questionnaire for Librarians:

Questionnaires were divided into three parts:

Part A: Questions contains about demographic information, structure of the Library, E-resources collection in their Libraries and number of databases accessed by the users.

Part B: Questions contains about the use and impact of HELINET databases, number of users, publisher wise access and measures taken to promote the use of HELINET.

Part C: Questions contains about the infrastructural facility available in the library, overall problems, suggestions and recommendations to improve the use of HELINET Databases.

The questionnaires were shown in Appendix 1 and 2.

Appendices 1 contains questionnaire for Users and

Appendices 2 contains questionnaire for Librarians.

13.6 Pilot Study:

A pilot study was conducted before distributing the questionnaires. Total 20 questionnaires were distributed to library Users at Father Muller Medical College and two questionnaires were distributed to Librarians of K.S. Hegde Medical Academy and Yenepoya Medical College. Based on their suggestions and comments questionnaires were used for final survey with little modification.

13.7 Distribution of Questionnaire and Response Rate:

The researcher personally visited the institutions to collect accurate data. The researcher has personally met the staff, students and the Librarians to distribute the questionnaires. The study made about the use and impact of HELINET Databases on health science institutions, the researcher has put lot of effort to collect the data because the teaching staff and postgraduate students were very busy in Out Patient Departments (OPD), wards and in clinical practice.

The researcher covered the entire population for data collection. The questionnaires distributed, responses received and the percentage is shown in the following table.

Table 1: Questionnaires distributed and responses received.

Sl. No	Institutions	Questionnaire Distributed* Staff/Students		Total	Questionnaire Received Staff/Students		Total	Percentage
1	Medical	107	207	314	60	133	193	61.46
2	Dental	101	278	379	45	173	218	57.52
3	Nursing	64	197	261	35	159	194	74.33
4	Ayurveda/Homoeopathy	20	45	65	13	35	48	73.85
5	Others	86	212	298	54	157	211	70.81
	TOTAL	378	939	1317	207	657	864	65.60

Note: * Also represent total population.

In total the study received 864 (65.60%) responses. The rate of response from Nursing Institutions (74.33%), Ayurveda/Homoeopathy (73.85%) and Other

Institutions (70.81%) (Pharmacy, Physiotherapy and Hospital Administration) was favourable (above 70%) as compared to that of other Institutions. The reason could be the population size was small in these Institutions. In the Medical and Dental Institutions the response is over 55%. Krejcie and Morgan (1970) states that 306 (20.40%) is an ideal response for the 1500 population. In the present study 864 (65.60%) responses have been received for the population of 1317. Thus the study shows that the responses received are adequate for data analysis and interpretation.

13.8 Data Analysis:

The data collected from the users and from the Librarians scrutinized, tested, tabulated and analysed using MS Excel and with Statistical Package for Social Sciences (SPSS) 13.0 for windows. All the six hypothesis were tested by using statistical methods. The data collected were coded by using statistical tools and techniques. Experts help was sought while analyzing the data. Statistical tools like Mean, Standard Deviation, Chi-square, Analysis of Variance (ANOVA), Frequency, Percentage, Fisher's Exact Tests, factor analysis were used to analyse the data.

The analysed data was presented in tabular form with interpretation and graphic presentation. For bibliographical references the 5th edition of American Psychological Association Style was used.

14. Scope of the Study:

HELINET is a resource sharing consortia to the Health Sciences. HELINET mission is to network all the Libraries under Rajiv Gandhi University of Health Sciences for minimizing their utilization among the faculty, students and researchers in colleges and institutions affiliated to the University.

The study intends to understand the extent of use and impact of e-resources covered in HELINET databases, particularly awareness, contents covered, usage, databases covered, publishers contained, satisfaction level and the availability of infrastructural facilities in the Libraries to use the HELINET Databases. HELINET consortium was established in 2003 to provide access to expensive international journals at an affordable cost. To know the purpose is served to the user community. To know whether the library budget is reduced by subscribing HELINET databases. The access of e-resources through HELINET has been provided to the colleges which are affiliated to Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka.

The present research study is confined to Consortia Approach for Content Sharing using HELINET Databases in Health Science Libraries in Dakshina Kannada: a case study.

15. Limitations of the study:

The population existing in Health Science Institutions was Teaching staff, Non-teaching staff, Doctors, Nurses, Residents, Interns, Technical staff, Postgraduate students and Undergraduate students. As the number is large, the researcher as limited the samples to permanent teaching Staff, Post Graduate Students and the Librarians to get accurate data. They are using the HELINET Databases and are always available in the Institutions. The HELINET databases are utilized to the maximum level by the Postgraduates, hence the researcher has taken Postgraduates institutions only, and the undergraduates are excluded in this study.

The HELINET databases access was given by the RGUHS, Bangalore to all the affiliated institutions in Karnataka state. Total Institutions covered were 680. As the sample size was large, the researcher as covered only 27 Postgraduate Institutions of Dakshina Kannada. The researcher has made a study about 18 Librarians because out of 27 Institutions, some institutes are centralized in one campus and have one Central Library.

16. Organization of the Thesis:

The thesis is presented in nine chapters.

Chapter 1: Introduction:

Introduces the topic of the research, it also provides need for the study, states the problem of the research, defines the concepts, objectives and significance of the study.

Chapter 2: Review of Literature:

Presents the review of literature on the research topic. The literature includes preference given to electronic and print version, impact of e-journals over print journals, consortia approach for e-resources, development of national and international consortium, evaluation/usage of e-resources, issues and challenges of e-

resources, category-wise usage of e-resources and growth and development of health science libraries.

Chapter 3: Research Methodology, Scope, Limitations and Hypotheses of the Study:

Describes the research design, hypotheses, methodology, population selected for the study, statistical methods used for data analysis and scope, limitations of the study.

Chapter 4: Health Science Libraries: Growth and Development:

Deals with health care, higher education and health science education in India, highlights about history of medical libraries.

Chapter 5: Profiles of the Institutions of Dakshina Kannada:

Gives the profiles of twenty seven surveyed institutions of Dakshina Kannada.

Chapter 6: HELINET: a resource sharing consortium:

Covers detailed information about HELINET e-resources, its vision, mission, motto, structure, infrastructure requirements, access gateways, subjects covered and impact of e-resources.

Chapter 7: Data Analysis and Interpretation:

Analyzed data has been presented with tables and graphs in the chapter.

Chapter 8: Research Findings:

Major findings of the present study are presented in this chapter.

Chapter 9: Suggestions, Recommendations for Future Research and Conclusion:

Suggestions given by the users, librarians and researcher are included in this chapter. Also provides direction for future research and conclusion.

Appendices and Bibliographical references are provided at the end of the thesis.

17. Research Findings:

The Rajiv Gandhi University of Health Sciences, Bangalore realized that scholarly and professional information resources like journals and books are expensive and building a comprehensive collection at every college was unaffordable besides leading to duplication. The solution had to come from networking the libraries in all the colleges under the universities and promoting a culture of co-operative procurement and resource sharing. Thus HELINET (Health Science Library and Information Network) came into existence.

The researcher has conducted a study to know the current trend of the usage of HELINET databases by the Health science Libraries of Dakshina Kannada District. The results are presented in Data analysis chapter. The findings of the study are presented below.

Findings from the users:

17.1 Demographic survey and use of e-resources:

1. Total Population covered under this study was 1317 questionnaires were distributed to entire population. The total responses were 864, responses rate was 65%.

2. Out of 864 responses, 478(55.3%) were male and 386(44.7%) were female. The study shows that male responses were more than female. The study also reveals that highest male respondents were from Dental Institution 161(66.0%) and the lowest were from Ayurveda/Homeopathic Institutions 35(63.6%). The highest female respondents were 130(77.4%) from Nursing Institutions and lowest female respondents were 20 (36.4%) from Ayurveda/Homeopathic Institutions.

3. There are about 864 respondents, out of that 696(80.6%) of the respondents were in the age group of 21-30, 128(14.8%) respondents in the age group of 31-40, 32(3.7%) of the respondents were in the age group of 41-50, and 8(0.9%) were in the age group of above 50.The findings of the study revealed that the age group of 21-30 are accessing e-resources more than other age groups.

4. It is observed that among the 864(100%), 673(77.9%) are Postgraduates, 70(8.1%) Tutor/Lecturers, 59(6.8%) Assistant Professors, 36(4.2%) Associate Professors and 26(3.0%) are Professors.

5. It was reported that majority of the respondents 821(95%) are familiar to use internet in various Institutions only few 43(5%) are not familiar to use the internet.

6. It has been noted that the usage of the electronic resources was high, out of 864 respondents, 790(91.4%) are using e-resources, only few 74(8.6%) respondents are not using electronic resources.

7. It is observed from the table that out of 790 respondents, 188(23.8%) access e-resources twice in a week, 170(21.5%) access Daily, 158(20.0%) access once in two days, 149(18.9%)access once a week, 76(9.6%) access e-resources rarely and 49(6.2%) access e-resources once in fort night. Among the Institutions, it has been revealed from the findings that there was more respondents from Dental Institutions regarding frequency of access of e-resources compare to others.

8. It was reported that majority of respondents 398(50.4%) prefer library as their location to access the e-resources in their Institutions.

9. The respondent's opined that they access e-journals more than others. Over all 633(80.17%) access e-journals the hypothesis users prefer e-journals more than e-books are accepted because majority of the users prefer e-journals than e-books.

10. It was interesting to note that over all 482(61.0%) respondents prefer PDF format to down load the e-resources, 252(31.9%) prefer both the formats and 131(16.6%) prefer HTML format. Among the Institutions Dental stood first to prefer PDF format, out of 218 respondents184 (84.4%) prefer PDF form.

11. In a professional Library there should be trained personnel's to assist the users. Out of 790 responses 621(78.6%) opined that they have trained personnel's to help them in their study and research where as 169(21.4%) opined that they does not have trained personnel. It is observed from the findings that in majority of the Institutions that they have trained personnel to assist the users.

12. Over all the assessment of quality of information acquired by the respondents was high according to various Institutions. Out of 790 respondents, 347(43.9%) opined good about quality of information acquired from the e-resources.

13. It has been observed that the access time to search electronic e-resources that out of 790 respondents, 303(38.4%) opined that some what fast, 291(36.8%) opined fast, 140(17.7%) opined slow, 29(3.7%) opined very slow, 27(3.4%) opined very fast. Among the Institutions Medical opined fast, Dental opined slow, Nursing opined some what fast, Ayurveda/Homoepathy equal opinion given to some what fast and fast and others opined some what fast.

14. Over all opinion about the merits of the resources significantly differs among the Institutions. (79.47%) says easy to access and the best preference is given to links to full text (65.44%).

15. Over all opinion about the demerits of the e-resources significantly difference among the Institutions. Among the demerits (69.39%) complaint about networking problem and the least (55.77%) opined difficult to read computer screen.

17.2 Consortia approach by using HELINET resources.

16. It is noticed from the table that out of 790 electronic users, 718(90.9%) are aware of HELINET resources only 72(9.1%) does not aware. It was also formed from the table that there is significantly difference with regard the awareness of HELINET among the respondents. Totally many are aware of HELINET resources.

17. The study reveals that out of 718(100%) HELINET users, 632(88.0%) are using HELINET resources where as 86(12.0%) are not using HELINET resources. Among the health science Institutions. Dental 196(93.8%) and Medical 157 (91.8%) staff and students using more than others. The hypothesis Medical and Dental Institutions are using more than others is accepted.

18. Gender wise use of HELINET resources revealed that (93.0%) males and (81.6%) females are using HELINET resources.

19. The age group 21-30 using HELINET resources more than others. Age wise respondents proved the hypothesis the younger age group are using more than older once. Age is the main criteria on the usage of HELINET Databases.

20. Among the categories of users, out of 632 respondents 518(91.0%) post graduates and 21(87.5%) of Professors were using HELINET significantly higher than other category of users.

21. It has been revealed from the usage study 48(66.7%) of the respondents are not using due to lack of computer knowledge, 22(30.6%) due to lack of bibliographic tools, 18(25%) of the respondents due to incomplete volumes, 14(19.4%) desire to browse print version and the 4(5.6%) opined difficult to read computer screen.

22. Publisher wise access of e-journals report shows that out of 632 HELINET users the highest ranking given to Science Direct 381(60.3%) and Ovid 356(56.3%) and least was Bentham 5(0.8%) and Theime Verlog 6(0.9%).

23. Publisher wise data bases access of e-books report shows that highest users for e-books was from Ovid 305(48.3%) and the least was 12(1.9%) from Google and others.

24. The researcher has collected opinion from the users regarding e-resources covered by the HELINET. The study revealed that the Medical Institutions opined good, Dental opined fair, Nursing opined good, Ayurveda/Homoepathy opined good and others opined good. Over all the study revealed that e-resources covered by the HELINET are good. Based on the usage study the hypothesis framed as HELINET Data base users of Dakshina Kannada have positive attitude towards the usage is proved.

25. Over all opinion about the databases of HELINET, the respondents have given highest ranking to Bentham (88%) and least is given to Theime Verlog (60%).

26. Publisher wise data bases covered by HELINET and ranking given to its features revealed as follows:

26.1 Annual Reviews, majority opined about journals collections was good 77(43.8%), content covered was good 71(40.3%), Easy to down load was good 84(48.3%) Pictures, Charts and diagrams overall opinion was fair 69(39.9%) easy to search was good 77(44.3%), easy to access was good 77(44.3%), Back volumes covered was fair, e-mail alert was fair 79(47%) Daily update was fair 71(42.5%).

26.2 Bentham: Overall majority opined about book collection was excellent, journal collection was fair 28(59.6%), content covered fair 26(55.3%), easy to down load fair 20(42.6%), Pictures, Charts, Diagrams etc 23(48.9%)opined fair, easy to search 23(54.8%) opined fair by 28(60.9%), Archives (back volumes) opined fair 21(45.7%), e-mail 24(52.2%) and Daily updates are fair 24(52%).

26.3 Blackwell: Majority of the respondents opined about journals collections was good, 73(42.9%) Content covered good 76(44.4%), Easy to down load was good 61(36.5%), Picture, Charts, Diagrams etc was fair 73(42.7%), Easy to search fair 73(42.7%), Easy to access 70(40.9%) opined good, Back volumes 67(39.2%) opined good, e-mail alert services was fair 69(40.4%), Daily updates was fair 68(40%).

26.4 Ovid: Majority of the respondents opined book collection was good 124(40%), journals collections was good 204(56.7%), Content covered was good 196(54.6%), easy to down load was good 170(47.2%) Pictures, Charts Diagrams was good 149(41.5%), Easy to search was good 183(50.8%), easy to access was good 181(50.4%), Back volumes covered in Ovid was fair 140(39.1%), E-mail alerts was fair 135(38.4%) and Daily updates was fair 137(39.4%).

26.5 M D Consult: Majority of the respondents opined fair about book collection in M D Consult 51(37.2%), Journals collection was good 65(41.1%), Content covered was good 71(45.2%), easy to down load was good 71(45.2%), Pictures, Charts, Diagram covered was good 61(38.9%), easy to search was good 69(43.9%), easy to access was good 63(40.1%), Back volumes covered was fair 55(36.2%), E-mail alerts were fair 61(40.7%) and Daily updates were fair 52(35.4%).

26.6 Science Direct: Overall opinion was sought regularly the features of science direct. The respondents opined that journals covered was good 170(50.6%), Content covered was good 187(49%), Easy to download was good 160(46.5%), Pictures, Charts, Diagrams covered was good 143(42.1%), Easy to search was good 159(46.5%) Easy to access was good 148(43.7%), Back volumes covered was fair 156(46.3%) An e-mail alert was fair 151(45.6%) and Daily update was fair 140(43.8%).

26.7 Thieme Verlag: Overall opinion about the features of Theime Verlag was sought. It has been revealed that Journal collection was good 23(40.4%),Content covered fair 26(46.4%), Easy to download was good 17(30.4%), Pictures, Charts and Diagrams etc., was Fair 22(39.3%), Easy to search was Poor 20(35.7%), Easy to access opined Fair 19(33.9%), Back Volumes covered was Fair 23(41.1%), E-mail alert was Fair 22(40.7%) and Daily update was Fair 21(40.4%).

26.8 Springer: The findings of the study report about Springer features as Book collection was Fair and Good 12(30.8%), Journal collection was Good 43(39.8%), Content covered was Good 43(38.7%), Easy to download was Good 38(34.2%), Pictures, Charts and Diagrams covered was Fair 42(37.8%), Easy to search the E-books was Good 41 (36.9%), Back volumes covered was Fair 44(40%), E-mail alert was Fair 42(38.9%) and Daily updates was Fair 35(34.7%).

26.9 Taylor and Francis: The study about the features of Taylor and Francis revealed that the journals covered are Fair 18(34.6%), Content covered was Fair 18(34.6%), Easy to download was Poor 18(34.6%), Pictures, Charts and Diagrams etc., opined Fair 18(34.6%), Easy to search opined Fair 16(30.8%), Easy to access opined Fair 17(32.7%), Back volumes covered was Fair 19(36.5%), E-mail alert services covered are Fair 20(39.2%) and Daily updates covered was Fair 20(51.3%).

26.10 J-gate: The findings of the study states about Book collection was Good 65(42.2%), Journal collection was Good 72(46.8%), Content covered was Good 66(42.9%), Easy to download the e-resource was Good 60(39%), Pictures , Charts and Diagrams covered was Good 55(35.7%), Easy to search the e-resource was Good 59(38.6%), Easy to access the e-resource opined Good 62(40.5%), Back volumes

covered was air 49(31.8%), E-mail alert services contained was Fair 42(28.6%) and Daily updates was Fair 42(28.4%).

27. Opinion about the satisfaction level of the HELINET revealed that the majority of the users 288(45.6%) are moderately satisfied. The hypothesis, majority of the users are highly satisfied with the use of HELINET databases was rejected.

17.3 Impact of the use of HELINET databases:

28. It was noticed that the purpose for the e-resources was used by the majority of the users (above 55%) use for research, 417(66.0%) Presentation, 372 (58.9%) to keep up to date in subject, 371 (58.7%) use for Writing Dissertations and Thesis 364 (57.6%).

29. Views of the respondent regarding orientation about using HELINET databases was sought. Views collected among those who use electronic resource revealed that out of 790 users, 536(67.8%) require orientation, among those who are aware about HELINET revealed that out of 718 users 480(66.9%) opined that they require orientation. Among those who are not aware about HELINET revealed that out of 72 users 56(77.8%) require orientation hence, it is clear from the findings that a good number of respondents require orientation.

30. Views of the respondents regarding expect to have orientation revealed that majority of the respondents out of 536, 287(53.5%) expect to have orientation from HELINET consortium project staff.

31. The findings of the study revealed that out of 632 HELINET users majority of the 467 users (73.9%) opined that HELINET website is comprehensive and users friendly.

32. It was reported that majority of the staff and students those who aware and accessing HELINET databases revealed that they faced different type of problems while accessing e-resources. Out of 632 respondents, 255(41.9%) opined that they have limited number of systems, 237(37.5%) opined that no proper assistance, 223(35.3%) opined that problems with the connectivity, 190(30.1%) opined that they do not understand the process involved in using e-resources, 43(6.8%) opined other

reasons and 21(3.3%) opined inconsistent power supply. Overall opinion was that they have limited number of systems to access the e-resources.

33. The researcher has sought an opinion from the respondents regarding replacing e-books/e-journals among those who are aware of HELINET resources. Out of 718 respondents majority say that 432 (60.2%) "No". Among the Health science institutions Medical, Dental, Nursing, Ayurveda/Homoeopasthy and others opined "No". So it is clear that e-books and e-journals never replace printed format.

34. Opinion was sought from the respondents regarding replacing e-books/e-journals among those who are using HELINET resources. The study revealed that out of 632 users 370(58.5%) say 'No' and 262 (41.5%) say 'yes'. Chi-square analysis shows that there was no significant difference among the institutions.

35. It was reported from the study among the users of electronic resources regarding preference given to printed and electronic versions, the study revealed that out of 790 respondents 369 (46.7%) prefer both the versions. The study also reports that the Health science institutions of Dakshina Kannada prefer both the versions.

36. Opinion from the respondents sought regarding preference given to printed and electronic version among those who are aware of HELINET revealed that out of 718 respondents 351(48.9%) prefer both the version. The Health Science Institution of Dakshina Kannada also prefers both versions.

37. Opinion was sought from the respondent's preference given to printed and electronic version among the users of HELINET. The findings of the study reported that out of 632 respondents, 327(51.7%) prefer both the version. Chi-Square analysis shows that preference given by the Staff and Students to use e-version and printed was significantly different. All the Health Science Institutions of Dakshina Kannada opined that they prefer both the version. Hence, the hypothesis Health Science Libraries prefer electronic version than printed version is rejected.

38. The satisfaction level of the infrastructure facility available in the surveyed colleges is given below:

38.1 Computers: The ranking given by Ayurveda/Homeopathy colleges regarding computers, available in their institutions was high, percentage mean score was 74.51% compare to other colleges.

38.2 Printers: The Dental institutions are more satisfied with regard to printers facility available in their Libraries, the percentage mean score was 66.15% than other colleges.

38.3 Software: The opinion was sought among the colleges regarding satisfaction level of software facility available in their Library revealed that Ayurveda/Homeopathy colleges are more satisfied than others; the percentage mean score was 62.75%.

38.4. Internet Connectivity: With regard to Internet connectivity the Ayurveda/Homeopathy colleges are more satisfied than others. The percentage means score was 69.02%.

38.5. Power Supply: The findings of the study regarding power supply to the colleges to access the e-resources revealed that the Ayurveda/Homeopathy College was high compare to others. The percentage means score was 71.7%.

38.6: Floppy/CD Drive: The facility such as floppy/CD Drive was more in Ayurveda/Homeopathy colleges compared to others. The percentage means score was 65.49%.

38.7. CD Writer: The percentage means score of CD Writer available in Ayurveda/Homeopathic colleges was high i.e., 68.63% compare to others.

38.8. DVD ROM: Ayurveda/Homeopathic colleges are more satisfied regarding DVD ROM available in their Libraries. The percentage mean score was 67.84% high compare to others.

38.9 Scanner: Regarding scanner facility available in the surveyed colleges, the Dental colleges are more satisfied than others. The percentage mean score was 61.38%.

38.10 Furniture: The percentage mean score of Dental college was very high i.e., 64.68% compare to others. Hence, the Dental colleges are more satisfied regarding furniture facility available in their colleges to access e-resources.

38.11 Browsing centre: The satisfaction level of Dental colleges is more comparing to others regarding browsing centre available in their libraries to access e-resources. Their percentage mean score was 64.22%.

38.12 Over all satisfaction level of available infrastructural facilities available in the colleges to access e-resources, the ranking was given to power supply. Almost all the colleges are satisfied with power supply. The percentage mean score was 68.78%.

39. A study was made about HELINET resources have a great positive impact among those who are aware of HELINET. The findings revealed that 61.7% of the respondents were moderately dissatisfied.

40. Among those who use HELINET opined about HELINET resources have a great positive impact on users that they too are moderately dissatisfied. Total 61.7% are dissatisfied, Chi-square analysis and ANOVA shows that there was no significant difference among the institutions.

Findings of the Librarians:

17.4 Demographic factors and general opinion:

41. The study reveals that majority of the Librarians are qualified to handle library resources.

42. Over all 12(66.7%) have attended training program in handling e-resources, 6(33.3%) have not attended the training program. It is observed from the study that many are trained to handle e-resources. Majority of the Librarians opined that the training program should be conducted by the HELINET consortium project staff.

43. A study has been made to find out the knowledge of e-resources accessed from HELINET by the Librarians. The study revealed that out of 5 Medical Librarians 4(80%) each access Ovid, Springer, Theme/Verlag, Science Direct and J-Gate.

Among the Allied Health Sciences out of 13 Librarians 10(76.9%) each access Ovid and J-Gate. 9(69.2%) access Science Direct. It has been observed that Medical Librarians access HELINET databases more than allied health sciences.

44. The study points out that majority of the institutions do not have Books in CD format. The study also reveals that majority of the institutions does not have e-journals in CD format. The study states that majority of the institutions have e-books and e-journals.

45. The important aspect in professional libraries is to give orientation to the users to use the e-resources. In this regard researcher has surveyed the institutions to find out effective use of HELINET databases. The findings of the study state that overall out of 18, 13(72.2%) are giving orientation and the rest 5(27.8%) are not giving orientation.

17.5 IMPACT OF THE USE OF HELINET E-resources:

46. The study reveals that 40% of Medical and 38.5% of Allied Health Science users access e-resources covered in HELINET databases per day. They are allowed to use e-resources 6 to 8 hours. It is also revealed that the HELINET e-resources are maximum used by PG students.

47. Opinion was sought regarding publisher wise e-books accessed more frequently. Findings of the study summarizes that Librarians prefer e-books covered in Ovid than others.

48. Majority of the Librarians opined that the e-resources covered under HELINET databases are good. Out of 18 Librarians, 12(66.7%) have opined good, 4(22.2%) have opined Fair and 2(11.1%) have opined Excellent.

49. Analysis of the study revealed that overall opinion was that they agree the statement that “E-resources have positive impact on information /reference services, Library budget, on space, user expectation, decrease the workload of the Library staff and saving time.

Based on the findings, the Suggestions, Recommendations and direction for Future Research are given in the final thesis.

18. Conclusion:

The result of the study shows the awareness and use of electronic resources in health science institutions. Among the category of users Postgraduate students are using more than others categories. Hence, the study shows that the data and results would enable to target the users with respect to the age groups. Age depends on the usage of HELINET Databases. The researcher identified that majority of the users opined that e-resources covered in HELINET are good. This signifies positive opinion towards the usage of e-resources. It was observed from the study that majority of the users are satisfied using HELINET databases.

The impact of the use of HELINET databases signifies considerable increase in the number of usage, awareness, downloading of articles etc., The researcher identified from the study that the major purpose for e-resources are used for research, presentation, to keep up to date in their subject and for writing thesis and dissertation.

The major drawback identified in the present study by the researcher was lack of orientation which affected on the usage of HELINET e- resources. The Librarians should attend the training programs and should conduct user education for a small group of faculty members belonging to a single subject/discipline, so that can be made known to the concerned faculty members. Lack of Finance, Infrastructural constraints, awareness about consortia benefits, slow acceptance of e-information by the users are the other bottlenecks. A good infrastructure is the major factor for the use of e-resources. To enhance the use of e-resources more awareness programs should be organized to introduce the users about the facilities, benefits available in electronic format than print.

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